ROV Dive Summary
EX2301, Dive 08, April 25, 2023

General Location Map

Dive Information

Site Name	Nitinat Canyon
General Area Descriptor	Sloped canyon wall with max depth of 1121m
Science Team Leads	Alexis Weinnig, Paige Koenig

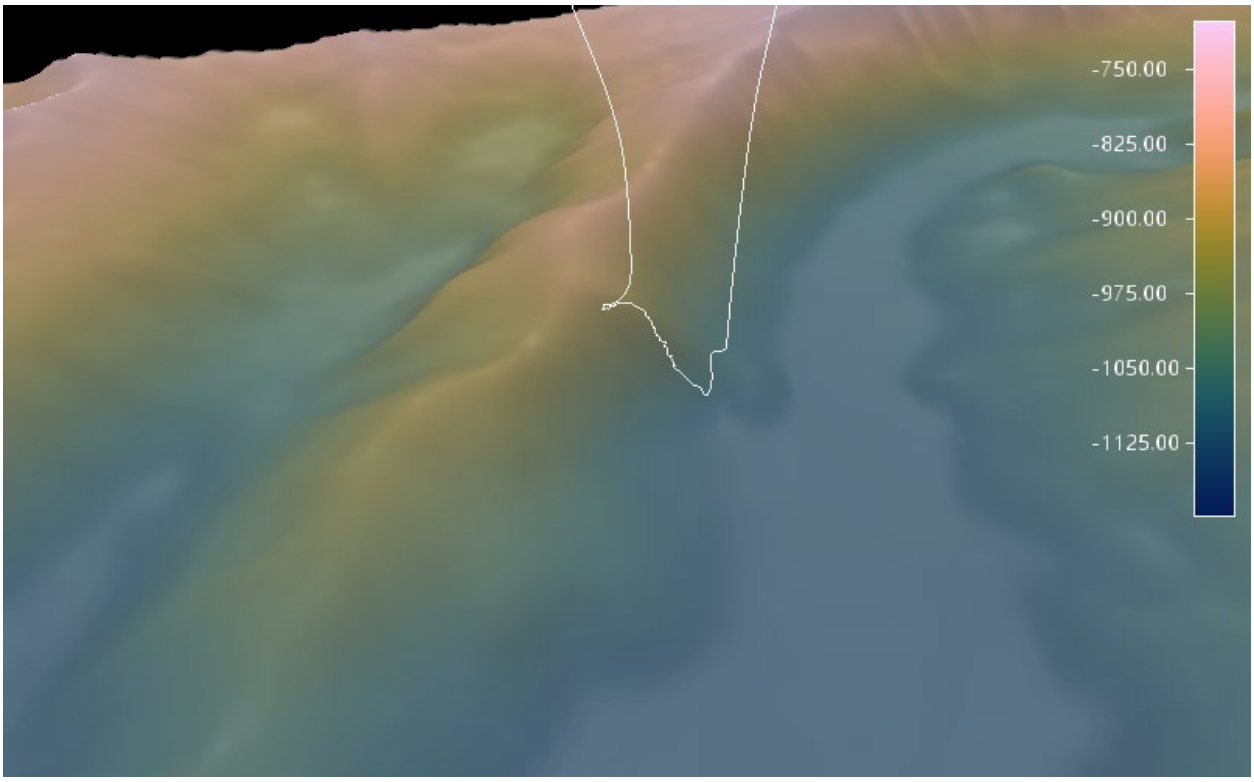
Expedition Coordinator	Thomas Morrow
ROV Dive Supervisor	Chris Ritter
Sample Data Manager	Caitlin Ruby, Ashley Marranzino
Mapping Lead	N/A
Dive Purpose	ROV Engineering Shakedown
Maritime Heritage Restrictions	No
ROV Dive Summary Data	Dive Summary: EX2301_DIVE08 ^^ Dive Type: Normal In Water: 2023-04-25T15:25:00.692705 nan ; nan On Bottom: 2023-04-25T16:23:29.763900 48.153949972491255 ; -125.81364619273306 Off Bottom: 2023-04-25T22:59:43.575812 48.15455291899915 ; -125.81644751714528 Out Water: 2023-04-25T23:35:18.514711 48.15406090966119 ; -125.82215272898355 Dive Duration: 8:10:17 Bottom Time: 6:36:13 Max Vehicle Depth: 1104.8 m Min Seafloor Depth: 901.6 m Distance Travelled: 323.7 m

Dive Description	This was the eighth dive of EX2301 and was located within Nitinat Canyon up the slope of a southeast-facing wall. The dive began at approx. -1121m and ascended to approx. -960m. Geologic features include heavy sedimentation at the base of the canyon and semi-consolidated rock outcrops along steep sloped areas. The majority of outcrops contained vacant bivalve boreholes confirmed by scattered shell remnants and lack of holes in eroded areas. There were regions of Pleistocene glacial sediment cobbles both at the top of the canyon slope and embedded within the sediment outcrops. Sedimentation increased as we moved northwest along the canyon wall. There was a notability high number of *Poralia sp*. jellyfish in the water column close to the benthos that were in view in the Serios camera for the majority of the dive. We observed a diversity of fish including Zoarcidae, *Zeumia* sp., Anoplopomatidae, Scorpaena, Myxinidae, and *Pleuronectes flesus*. There were a few different types of coral (*Umbellula* sp., *Gersemia juliepackardae*, *Callistephanus* sp., *Paragorgia yutlinux*, *Chrysopathes speciosa*, *Balticina* sp., and *Parastenella* sp.) and sponges (*Farrea* sp., *Aphrocallistes vastus*, Rossellidae, *Latrunculia* sp., and Tretodictyidae). Other notable benthic animals included *Chionecetes* crabs, *Liponema brevicorne* anemone, Mediaster, Ampheraster, *Psolus sp*., and *Bathypera feminalba*. Four biological collections were completed including a *Farrea sp*. sponge, Rossellidae sponge, *Chrysopathes speciosa* coral, and a *Latrunculia sp.* sponge. We successfully captured 5 niskin water samples to be used for eDNA filtration. We attempted one geologic sample but was unsuccessful.
Notable Observations	
Community and Habitat Observations	Corals and Sponges — Present Chemosynthetic Community — Absent High biodiversity Community — Absent Active Seep or Vent — Absent Extinct Seep or Vent — Absent Hydrates — Absent
CMECS Feature Type(s)	Canyon slope
SeaTube Link (science annotations)	https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&resourceId=2823

Equipment Deployed

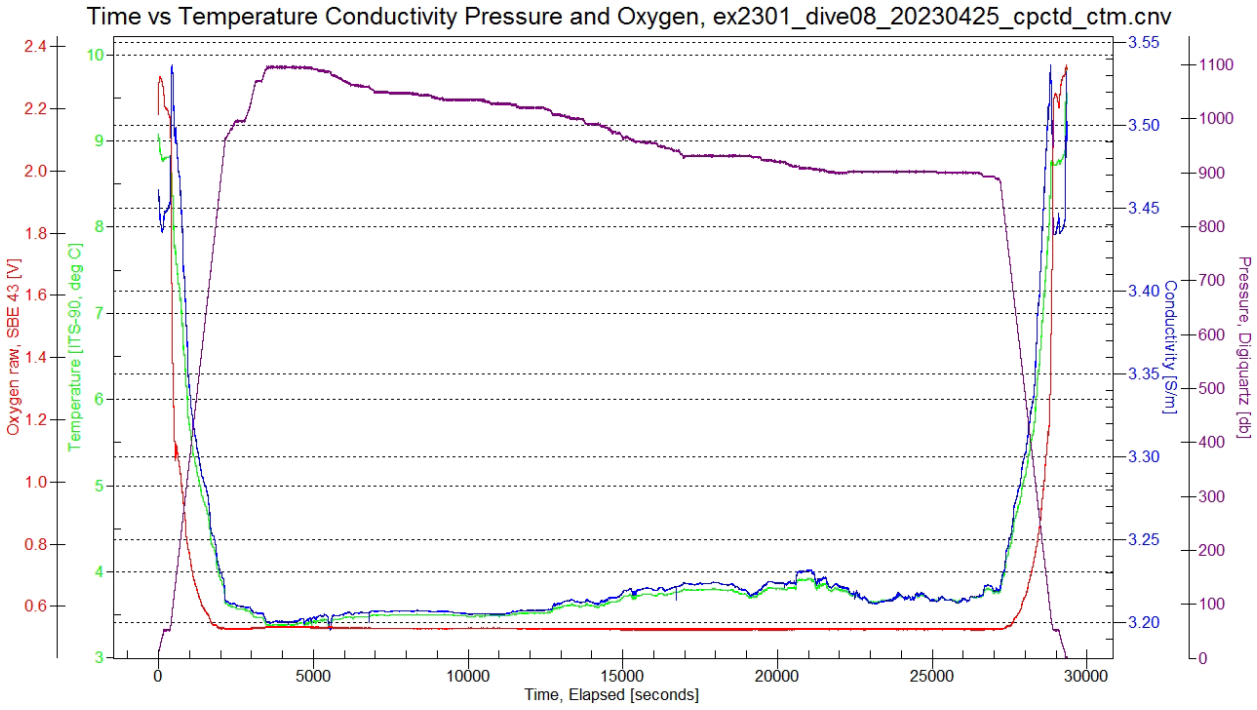
ROV	*Deep Discoverer*
Camera Platform	*Seirios*
ROV Measurements	The following ROV measurements, data streams and equipment are used on each ROV deployment: CTD, depth, scanning sonar, USBL position, altitude, heading, attitude, high-resolution cameras, low resolution cameras, manipulator arms, suction sampler, sample drawers and thrusters. The following row notes if any of these sensors were malfunctioning or not operational
Equipment Malfunctions	

Close-Up Map of Main Dive Site



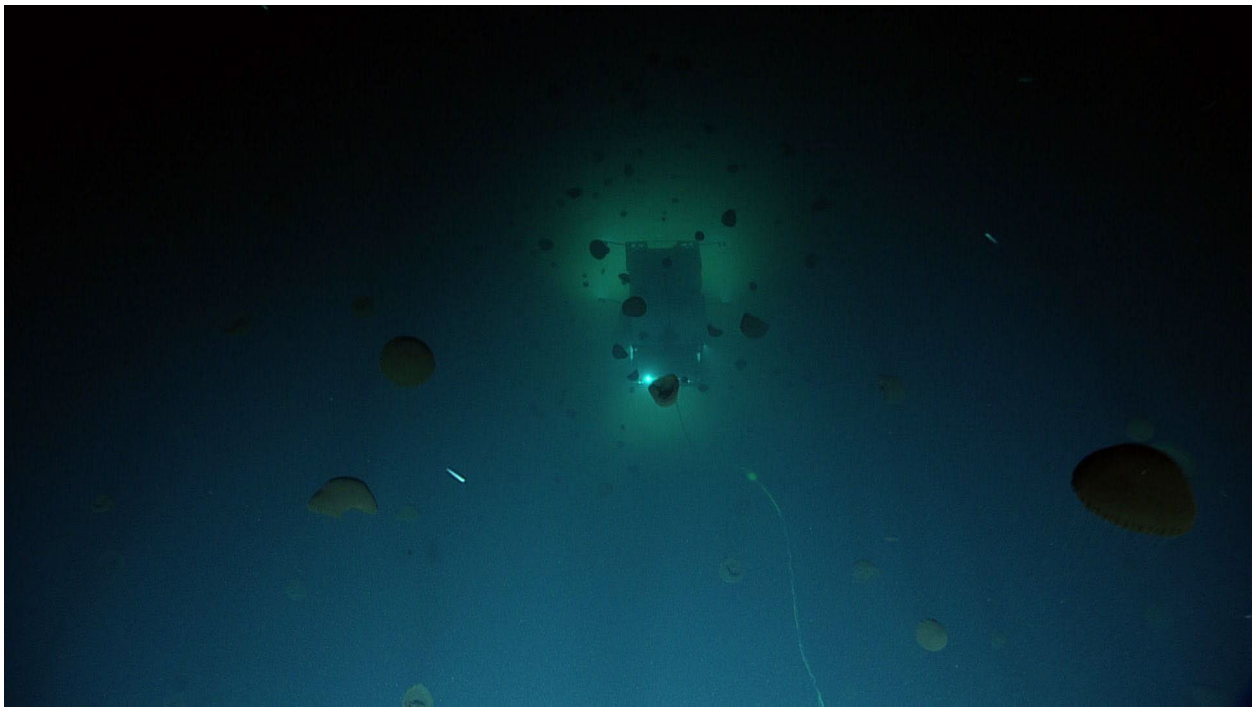
Main dive site for ROV shakedown on 50m bathymetry, depth in meters. 2X vertical exaggeration.

Sound Speed Manager Image of ROV CTD Profile

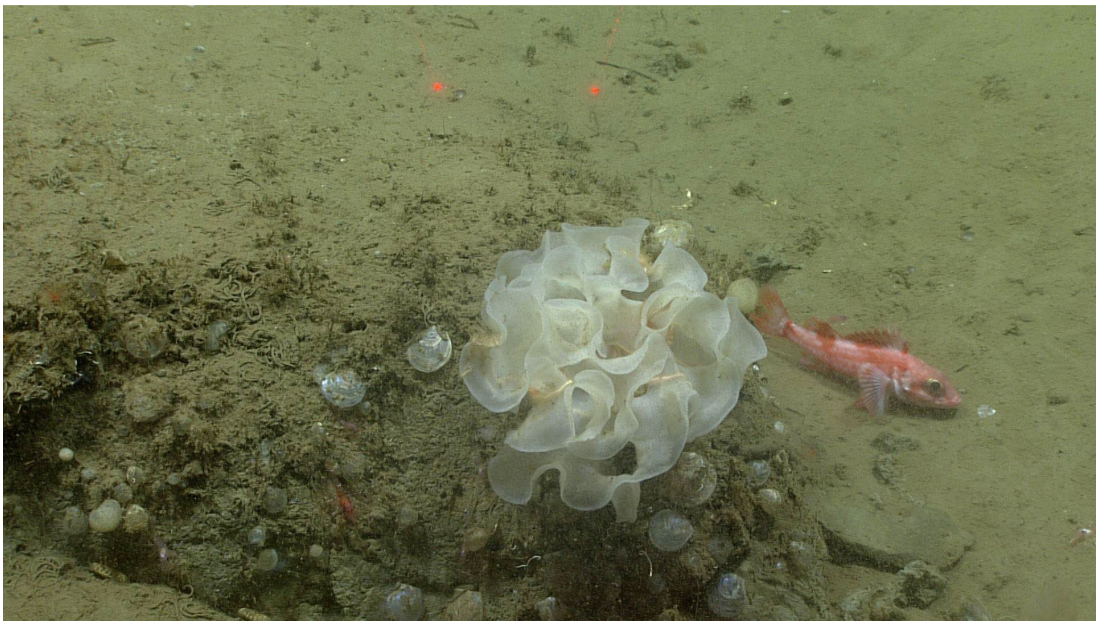


ROV CTD profiles for Dive 07

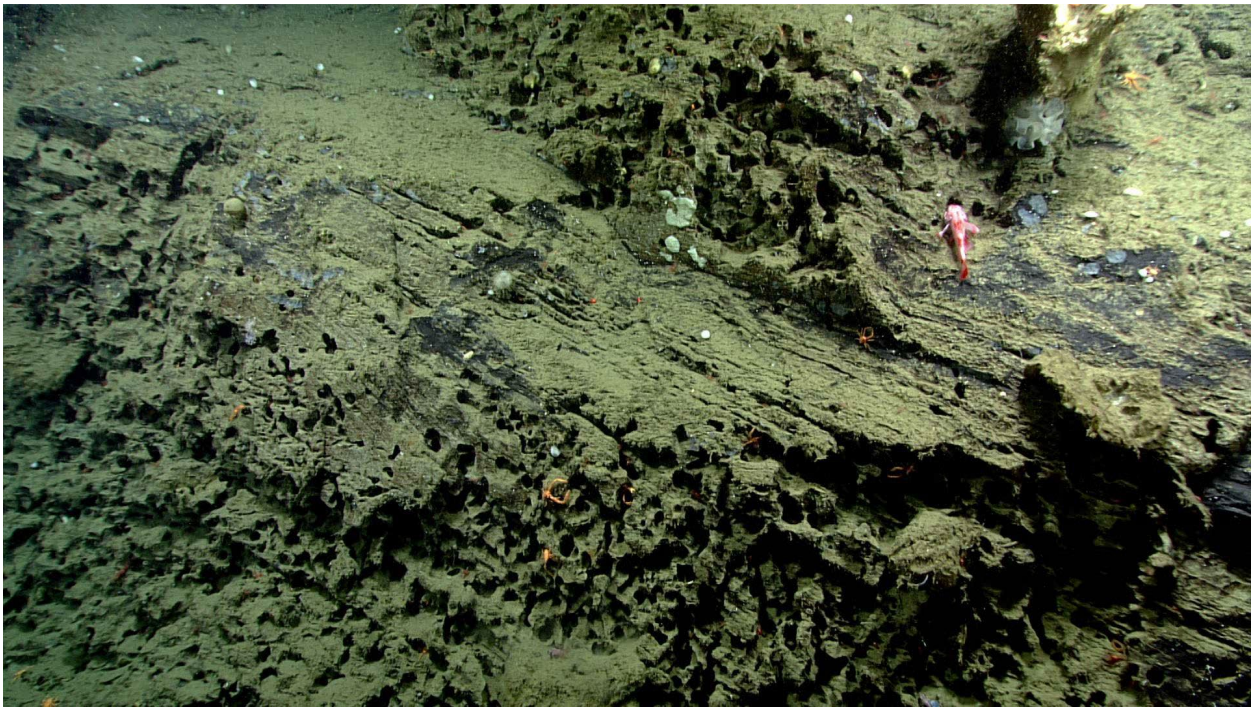
Representative Photos of the Dive



Deep Discoverer as seen from *Seirios*, surrounded by numerous *Poralia sp.* jellyfish in the water column



Sponge sample observed on the seafloor.



Mudstone outcrop with layering and possible bioturbation holes.

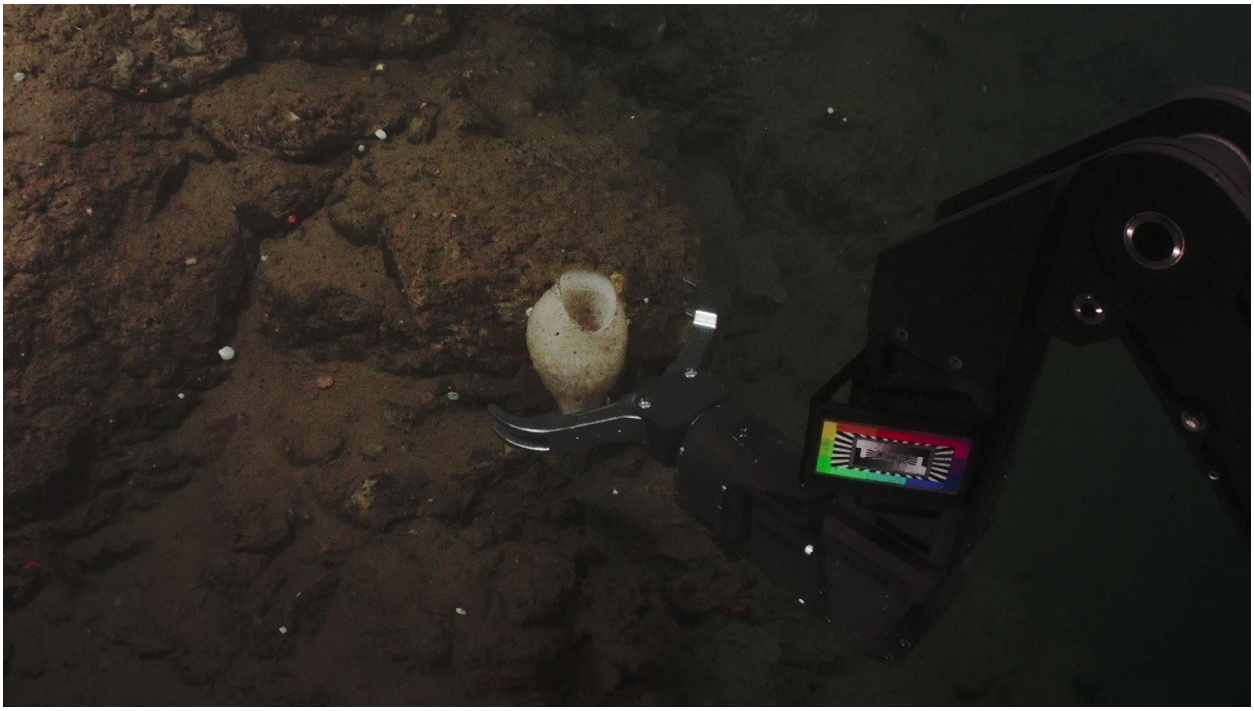
Samples Collected

Ferrara sp. sponge sample, laboratory photo with label, scale bar, and color chart.

Sample ID	EX2301_D08_01B
Date (UTC)	20230425
Time (UTC)	18:13:04
Depth (m)	1041.621948
Latitude (decimal degrees)	48.15439224
Longitude (decimal degrees)	-125.8149109
Temp. (°C)	3.303999901
Field ID(s)	Farrea sponge
Comments	Semi-translucent. Was suction sampled and broken into numerous pieces.

Pandalidae shrimp associates, laboratory image with label, scale bar, and color chart.

Associates Sample ID	Field Identification	Count
EX2301_D08_01B_A01B	Pandalidae	3



Hexactinellida sample *in situ* during sampling.

Hexactinellida sample in laboratory photo with label, scale bar, and color chart.

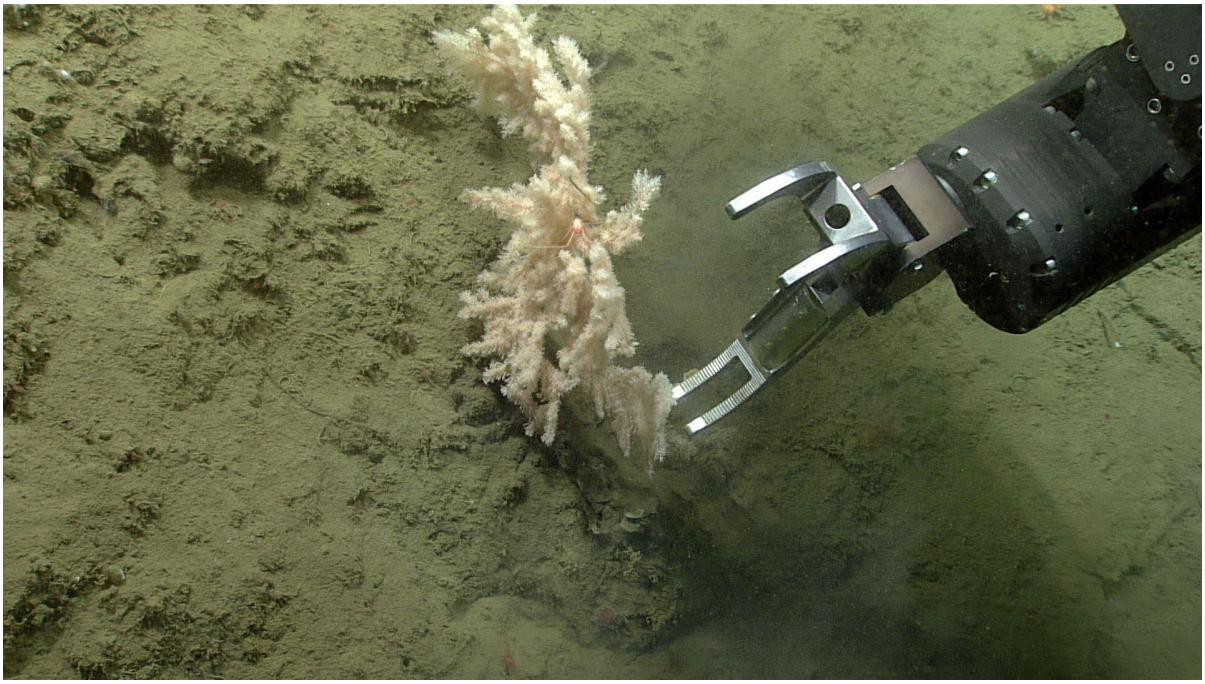
Sample ID	EX2301_D08_02B
Date (UTC)	20230425

Time (UTC)	18:51:15
Depth (m)	1025.574951
Latitude (decimal degrees)	48.15450287
Longitude (decimal degrees)	-125.8149719
Temp. (°C)	3.319000006
Field ID(s)	Hexactinellida
Comments	Off white color. Spongy texture. Orifice opening diameter ~8cm. 8.5cm tall. Long spicules at collar.

Caprella associates in laboratory photo with label, scale bar, and color chart.

Closeup of Caprella associates in laboratory photo.

Associates Sample ID	Field Identification	Count
EX2301_D08_02B_A01B	Caprella	2



Chrysopathes sp. sample *in situ* during sample collection.

Chrysopathes sp. sample in laboratory photo with sample label, color chart, and scale bar.

Sample ID	EX2301_D08_03B
Date (UTC)	20230425
Time (UTC)	194936
Depth (m)	962.4
Latitude (decimal degrees)	48.1546669
Longitude (decimal degrees)	-125.8155823
Temp. (°C)	3.6659
Field ID(s)	Chrysopathes
Comments	Mucusy. Tan polyps. Full colony, base included. Sniped in 2 pieces. 21cm tall. 30cm wide.

Associates Sample ID	Field Identification	Count
n/a		

Demosponge sample *in situ* during collection.

Demosponge sample in laboratory photo with sample label, scale bar, and color chart.

Sample ID	EX2301_D08_04B
Date (UTC)	20230425
Time (UTC)	202138
Depth (m)	940.1530151
Latitude (decimal degrees)	48.154811
Longitude (decimal degrees)	-125.815926
Temp. (°C)	3.703999996
Field ID(s)	Demosponge
Comments	Super squishy. Feels like silly puddy. Green with craters on surface. ~4cm.

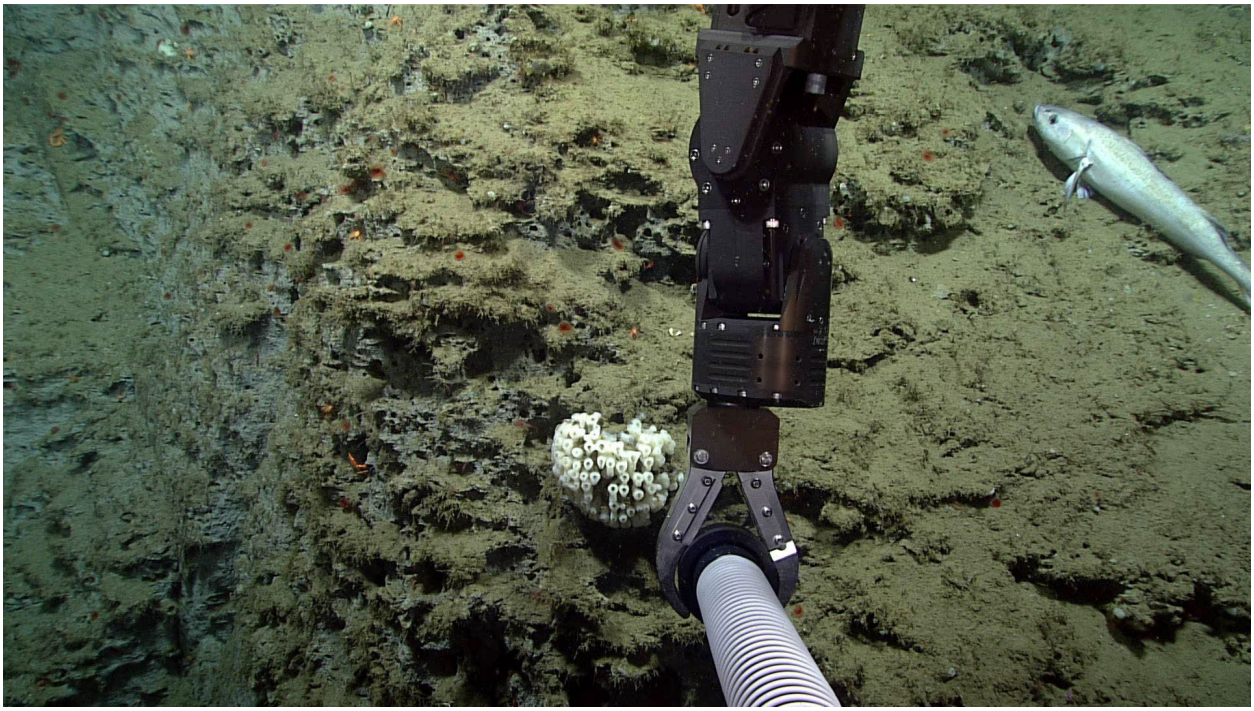
Associate arthropod samples in laboratory photo with sample label and color chart.

Associate amphipod samples in laboratory photo with sample label, scale bar, and color chart.

Associate mudstone sample in laboratory photo with sample label, scale bar, and color chart.

Associate hydroida samples in laboratory photo with sample label, scale bar, and color chart.

Associates Sample ID	Field Identification	Count
EX2301_D08_04B_A01B	Pandalidae	3
EX2301_D08_04B_A02B	Amphipoda	12
EX2301_D08_04B_A03G	Unconsolidated Mudstone	1
EX2301_D08_04B_A05B	Hydroida	1



Porifera sample *in situ* during collection.

Porifera sample in laboratory photo with sample label, scale bar, and color chart.

Closeup of Porifera texture in laboratory photo.

Sample ID	EX2301_D08_05B
Date (UTC)	20230425
Time (UTC)	220230
Depth (m)	909.6380005
Latitude (decimal degrees)	48.154803
Longitude (decimal degrees)	-125.816867
Temp. (°C)	3.644999981
Field ID(s)	Porifera
Comments	Ridgid / crunchy. Was suction sampled so broken into several pieces. Main part is ~9cm long. Tubular formation.

Associate mollusca sample in laboratory photo with sample label, scale bar, and color chart.

Associates Sample ID	Field Identification	Count
EX2301_D08_05B_A01B	Mollusca	1
EX2301_D08_05B_A02G	Mudstone	1
EX2301_D08_05B_A03B	Annelida	1
EX2301_D08_05B_A04B	Annelida	1

Niskin Sampling Summary

Sample ID	EX2301_D08_06W
Date (UTC)	20230425
Time (UTC)	223829
Depth (m)	908.6220093
Latitude (decimal degrees)	48.154496
Longitude (decimal degrees)	-125.817215
Bottle Number	1
Temperature (°C)	3.627000093
Dissolved Oxygen (ml/L)	0.3869999945
Treatment	Frozen

Sample ID	EX2301_D08_07W
Date (UTC)	20230425
Time (UTC)	223959
Depth (m)	907.7940063
Latitude (decimal degrees)	48.154468
Longitude (decimal degrees)	-125.817259
Bottle Number	2
Temperature (°C)	3.622999907
Dissolved Oxygen (ml/L)	0.3829999864
Treatment	Frozen

Sample ID	EX2301_D08_08W
Date (UTC)	20230425
Time (UTC)	224122
Depth (m)	908.8640137
Latitude (decimal degrees)	48.154466

Longitude (decimal degrees)	-125.817296
Bottle Number	3
Temperature (°C)	3.63499999
Dissolved Oxygen (ml/L)	0.3799999952
Treatment	Frozen

Sample ID	EX2301_D08_09W
Date (UTC)	20230425
Time (UTC)	224259
Depth (m)	909.875
Latitude (decimal degrees)	48.154447
Longitude (decimal degrees)	-125.817309
Bottle Number	4
Temperature (°C)	3.64199996
Dissolved Oxygen (ml/L)	0.3490000069
Treatment	Frozen

Sample ID	EX2301_D08_10W
Date (UTC)	20230425
Time (UTC)	224449
Depth (m)	907.9400024
Latitude (decimal degrees)	48.154399
Longitude (decimal degrees)	-125.81739
Bottle Number	5
Temperature (°C)	3.634000063
Dissolved Oxygen (ml/L)	0.3540000021
Treatment	Frozen

Sample ID	EX2301_D08_BLW
Date (UTC)	20230425
Treatment	Frozen

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